

CLAIMS

What is claimed is:

1. A method comprising:

receiving a broadcast signal containing a plurality of encrypted multimedia channels;

storing said encrypted multimedia channels in a first hard drive partition;

and

decrypting one or more of said encrypted multimedia channels to generate one or more decrypted multimedia channels; and

storing said decrypted multimedia channels to a second hard drive partition.

2. The method as in claim 1 wherein said first hard drive partition is optimized for writing data.

3. The method as in claim 2 wherein for N multimedia channels, writing to said first hard drive partition comprises:

writing a first amount of multimedia data equivalent to a block from each of said 1 through N multimedia channels to each of a first N consecutive blocks in said first hard drive partition, respectively.

4. The method as in claim 3 wherein writing to said first hard drive partition further comprises:

writing a second amount of multimedia data equivalent to a block from each of said 1 through N multimedia channels to each of a second N

consecutive blocks in said first hard drive partition, respectively, said second N consecutive blocks being the next N consecutive blocks following said first N consecutive blocks.

5. The method as in claim 4 further comprising:
selecting a non-consecutive block if one of said first or second N consecutive blocks are unavailable.

6. The method as in claim 5 wherein said non-consecutive block is selected because jumping to said non-consecutive block will require relatively less seek time when compared with all other non-consecutive blocks.

7. The method as in claim 1 wherein said second hard drive partition is optimized for reading data.

8. The method as in claim 1 further comprising:
reading and decoding one or more of said multimedia channels from said second hard drive partition responsive to a user request to view said one or more multimedia channels.

9. The method as in claim 8 wherein decoding comprises MPEG-2 decoding.

10. The method as in claim 1 further comprising:
demultiplexing said multimedia channels prior to storing said decrypted multimedia channels to said second hard drive partition.

11. A method for reducing seek time while concurrently writing N multimedia channels to a mass storage device comprising:

writing a first amount of multimedia data equivalent to a block from each of said 1 through N multimedia channels to each of a first N consecutive blocks on a first hard drive partition on said mass storage device, respectively.

12. The method as in claim 11 wherein writing to said first hard drive partition further comprises:

writing a second amount of multimedia data equivalent to a block from each of said 1 through N multimedia channels to each of a second N consecutive blocks in said first hard drive partition, respectively, said second N consecutive blocks being the next N consecutive blocks following said first N consecutive blocks.

13. The method as in claim 12 further comprising:

selecting a non-consecutive block if one of said first or second N consecutive blocks are unavailable.

14. The method as in claim 13 wherein said non-consecutive block is selected because jumping to said non-consecutive block will require relatively less seek time when compared with all other non-consecutive blocks.

15. The method as in claim 11 further comprising:

pre-allocating metadata identifying each of said N multimedia channels stored on said mass storage device before writing said first amount of multimedia data for each of said 1 through N multimedia channels.

16. The method as in claim 15 wherein pre-allocating metadata comprises:

estimating an amount of storage space which programs from each of said multimedia channels will consume; and

pre-allocating an amount of metadata sufficient to identify said amount of storage space.

17. The method as in claim 15 wherein said metadata comprises an l-node and one or more indirect blocks.

18. A method for storing data on a mass storage in a format in which it can be deleted efficiently:

pre-allocating metadata to consecutive blocks on said mass storage device before writing said data.

19. The method as in claim 18 wherein pre-allocating metadata comprises:

estimating an amount of storage space which said data will occupy; and

pre-allocating an amount of metadata sufficient to identify said amount of storage space.

20. The method as in claim 18 wherein said metadata comprises an l-node and one or more indirect blocks.

21. The method as in claim 20 wherein said metadata further comprises a doubly-indirect block.

22. A system for efficiently storing multimedia content from N multimedia channels comprising:

a block allocation module to interleave multimedia content from each of said multimedia channels in successive blocks on a mass storage device.

23. The system as in claim 22 further comprising:

pre-allocation logic for pre-allocating metadata identifying said multimedia content before said multimedia content is stored on said mass storage device.

24. The system as in claim 23 wherein pre-allocating metadata comprises:

estimating an amount of storage space which said multimedia content will occupy; and

pre-allocating an amount of metadata sufficient to identify said amount of storage space.

25. The method as in claim 23 wherein said metadata comprises an I-node and one or more indirect blocks.

26. An article of manufacture having program code stored thereon which, when executed by a machine, cause said machine to perform the operations of: receiving a broadcast signal containing a plurality of encrypted multimedia channels;

storing said encrypted multimedia channels in a first hard drive partition; and

decrypting one or more of said encrypted multimedia channels to generate one or more decrypted multimedia channels; and

storing said decrypted multimedia channels to a second hard drive partition.

27. The article of manufacture as in claim 26 wherein said first hard drive partition is optimized for writing data.

28. The article of manufacture as in claim 27 wherein for N multimedia channels, writing to said first hard drive partition comprises:

writing a first amount of multimedia data equivalent to a block from each of said 1 through N multimedia channels to each of a first N consecutive blocks in said first hard drive partition, respectively.

29. The article of manufacture as in claim 28 wherein writing to said first hard drive partition further comprises:

writing a second amount of multimedia data equivalent to a block from each of said 1 through N multimedia channels to each of a second N consecutive blocks in said first hard drive partition, respectively, said second N consecutive blocks being the next N consecutive blocks following said first N consecutive blocks.

30. The article of manufacture as in claim 29 including program code to cause said machine to perform the additional operation of:

selecting a non-consecutive block if one of said first or second N consecutive blocks are unavailable.

31. The article of manufacture as in claim 30 wherein said non-consecutive block is selected because jumping to said non-consecutive block will

require relatively less seek time when compared with all other non-consecutive blocks.

32. The article of manufacture as in claim 1 wherein said second hard drive partition is optimized for reading data.

33. The article of manufacture as in claim 26 including program code to cause said machine to perform the additional operation of:

reading and decoding one or more of said multimedia channels from said second hard drive partition responsive to a user request to view said one or more multimedia channels.

34. The article of manufacture as in claim 33 wherein decoding comprises MPEG-2 decoding.

35. The article of manufacture as in claim 26 including program code to cause said machine to perform the additional operations of:

demultiplexing said multimedia channels prior to storing said decrypted multimedia channels to said second hard drive partition.

36. The method as in claim 1 wherein said first hard drive partition is on a first hard drive and said second hard drive partition is on a second hard drive.